

COMMERCIAL EXTERNAL RE-ENTRY TESTING FROM ORBIT

Abstract

An experiment system with six different re-entry experiment locations for testing high temperature re-entry materials, creating new thermal protection systems, proving innovative new concepts for spacecraft exterior surfaces and the incremental development of next generation aerospace materials. A commercial transportation system to and from orbit provides a 24-hour return cycle for the experiments on a surface actually re-entering the earth's atmosphere. Now using existing doors, hatches and other points on the reusable launch vehicle's exterior, the actual re-entry environment is experienced by test specimens with quick turn around for a wide variety of different re-entry temperatures ranges for broad testing and development purposes. The reusable launch vehicle launches, remains in orbit for 24 hours and returns to provide an actual test environment for the exterior experiment system.